

CLAIMS

[1] A self-erecting structure for a rod-shaped member comprising:

5 a rod-shaped member including a rod part having one end and the other end and an erecting operation part provided at the one end of said rod part; and

10 a container including a mount surface capable of accommodating said rod-shaped member in a lying position, said mount surface having an erecting action surface for the erecting operation part of said rod-shaped member to perform an erecting action thereon, said container further including a lid capable of opening and closing an open part of said mount surface;

15 said erecting operation part of said rod-shaped member having:

a rolling surface rollable on said erecting action surface in an erecting direction of said rod-shaped member;

20 an erection support surface formed adjacent to and forward of said rolling surface at one end of said rod-shaped member; and

25 a first magnet provided in a vicinity of said erection support surface, said first magnet having a first magnetic pole facing toward the one end of said rod-shaped member, so that magnetic force from said first magnetic pole acts on said erection support surface;

said container having a second magnet or a ferromagnetic material provided in a vicinity of said erecting action surface, said second magnet having a second

magnetic pole opposite in polarity to said first magnetic pole, said second magnetic pole facing upward so that magnetic force from said second magnetic pole acts on said erecting action surface;

5 wherein said rod-shaped member is constantly urged to pivot in the erecting direction by magnetic attraction force between the first magnetic pole of said first magnet and the second magnetic pole of said second magnet, or magnetic attraction force between the first magnetic pole 10 of said first magnet and said ferromagnetic material, so that said rod-shaped member is automatically shiftable from the lying position to an erect position by rolling of said rolling surface on said erecting action surface;

 said lid of said container having an erection 15 restraining part capable of holding said rod-shaped member in the lying position on the mount surface against urging force acting on said rod-shaped member in said erecting direction when said lid is closed.

[2] A self-erecting structure for a rod-shaped member 20 comprising:

 a rod-shaped member including a rod part having one end and the other end and an erecting operation part provided at the one end of said rod part; and

25 a container including a mount surface capable of accommodating said rod-shaped member in a lying position, said mount surface having an erecting action surface for the erecting operation part of said rod-shaped member to perform an erecting action thereon, said container further

including a lid capable of opening and closing an open part of said mount surface;

 said erecting operation part of said rod-shaped member having:

5 a rolling surface rollable on said erecting action surface in an erecting direction of said rod-shaped member; an erection support surface formed adjacent to and forward of said rolling surface at one end of said rod-shaped member; and

10 a ferromagnetic material provided in a vicinity of said erection support surface;

 said container having a second magnet provided in a vicinity of said erecting action surface so that magnetic force from said second magnet acts on said erecting action 15 surface;

 wherein said rod-shaped member is constantly urged to pivot in the erecting direction by magnetic attraction force between said ferromagnetic material and said second magnet so that said rod-shaped member is automatically 20 shiftable from the lying position to an erect position by rolling of said rolling surface on said erecting action surface;

 said lid of said container having an erection restraining part capable of holding said rod-shaped member 25 in the lying position on the mount surface against urging force acting on said rod-shaped member in said erecting direction when said lid is closed.

[3] A self-erecting structure for a rod-shaped member

according to claim 1 or 2, wherein the erecting operation part of said rod-shaped member is formed from a spherical or ellipsoidal magnet, said magnet being disposed so that one of magnetic pole points at which said magnet has a

5 highest magnetic flux density is positioned directly below said rod-shaped member when in the erect position as the first magnetic pole of said first magnet, and said rolling surface is a curved surface around the magnetic pole point operating as said first magnetic pole.

10 [4] A self-erecting structure for a rod-shaped member according to any one of claims 1 to 3, wherein said lid can open and close by pivoting around a pivot shaft, said erecting action surface being positioned on said mount surface closer to the pivot shaft of said lid, and a

15 pivoting direction of said rod-shaped member when shifting from the erect position to the lying position is the same as a pivoting direction of said lid from an open position to a closed position.

[5] A self-erecting structure for a rod-shaped member according to any one of claims 1 to 4, wherein said erecting operation part is provided at one end of a cap, said cap having at the other end thereof an opening that fits to a shape of the one end of said rod part.

[6] A self-erecting structure for a rod-shaped member according to any one of claims 1 and 3 to 5, wherein said mount surface can accommodate a first rod-shaped member and a second rod-shaped member side-by-side and is formed with a first erecting action surface and a second erecting

action surface for said first and second rod-shaped members, respectively, said first and second erecting action surfaces being spaced from each other to such an extent that when erecting operation parts of said first and second rod-shaped members are positioned on said first and second erecting action surfaces, respectively, a magnet of said first rod-shaped member and a magnet of said second rod-shaped member do not attract each other.

5 [7] A self-erecting structure for a rod-shaped member according to claim 6, wherein said first rod-shaped member and said second rod-shaped member pivot toward each other when shifting from an erect position to a lying position.

10 [8] A self-erecting structure for a rod-shaped member comprising:

15 a rod-shaped member including a rod part having one end and the other end and an erecting operation part provided at the one end of said rod part; and

20 a container including a mount surface and a lid capable of opening and closing a surface facing said mount surface;

25 said erecting operation part having a first magnet with a partial spherical or ellipsoidal surface, said first magnet being secured to the one end of said rod part so that when said rod-shaped member erects, a magnetic pole of said partial spherical or ellipsoidal surface of said first magnet faces toward said mount surface;

30 said mount surface having an erecting action surface for said rod-shaped member to perform an erecting

action thereon, said mount surface further having a second magnet that exerts magnetic force on said erecting action surface and its vicinity;

wherein said first magnet and said second magnet
5 differ from each other in polarity of their respective magnetic poles facing each other when said rod-shaped member erects on said erecting action surface, whereby said rod-shaped member is constantly urged to pivot in an erecting direction by magnetic attraction force between
10 said first magnet and said second magnet so that said rod-shaped member is automatically shiftable from a lying position to an erect position, wherein when said lid is opened, said rod-shaped member is erected by said urging force, whereas when said lid is closed, said rod-shaped
15 member can be held in the lying position in said container against said urging force.

[9] A rod-shaped member producing method to secure the first magnet set forth in claim 8 to one end of a rod-shaped member, said method comprising the steps of:

20 preparing a work surface having a magnetic pole opposite in polarity to a magnetic pole of the first magnet that faces said second magnet when said rod-shaped member erects on the erection support surface;

25 placing the first magnet having a partial spherical or ellipsoidal surface on said work surface in a natural state; and

bringing the one end of said rod part into contact with a top of the first magnet placed on said work surface

from directly above the first magnet, and bonding the first magnet to the one end of said rod part with an adhesive.

[10] A self-erecting structure for a rod-shaped member according to any one of claims 1 to 3 and 5, wherein said 5 lid can open and close by pivoting about a pivot shaft, and the erection support surface of said rod-shaped member is flat, wherein when said rod-shaped member is in the erect position with said erection support surface facing said erecting action surface, said rod-shaped member stands at a 10 tilt to the pivot shaft of said lid, so that said rod-shaped member is shiftable from the erect position to the lying position on said mount surface by pivoting down toward said pivot shaft in linkage with a closing motion of said lid.

15 [11] A self-erecting structure for a rod-shaped member according to any one of claims 1 to 3 and 5, wherein said lid can open and close by pivoting about a pivot shaft, and said erecting action surface is linearly slanted or curved so that when said rod-shaped member is in the erect 20 position with said erection support surface facing said erecting action surface, said rod-shaped member stands at a tilt to the pivot shaft of said lid, so that said rod-shaped member is shiftable from the erect position to the lying position on said mount surface by pivoting down 25 toward said pivot shaft in linkage with a closing motion of said lid.

[12] A self-erecting structure for a rod-shaped member according to claim 7, wherein said lid can open and close

by pivoting about a pivot shaft, and a pivoting guide surface is formed on an inner side of said lid, whereby when said lid is closed, said pivoting guide surface abuts on distal ends of said first and second rod-shaped members 5 and then guides said first and second rod-shaped members so that said rod-shaped members pivot toward each other.

[13] A self-erecting structure for a rod-shaped member according to any one of claims 1 to 12, wherein said container is a case body of a cosmetic compact case, and 10 said rod-shaped member is a makeup brush or a makeup tip.